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MotherCare™ Matters

A QUARTERLY NEWSLETTER AND LITERATURE REVIEW ON MATERNAL AND NEONATAL HEALTH AND NUTRITION

MOTHERCARE'S COMMUNITY ASSESSMENTS

Understanding Family and Community Behaviors and Practices

MotherCare has responded to the challenge posed by the annual tragedy of 585,000 maternal deaths with the following complementary strategies:

- **behavior change and health promotion at the community level**, including raising awareness of the danger signs of maternal and newborn complications and community mobilization;
- **quality of care improvements**, including provider training in technical and interpersonal skills and provider behavior change; and
- **policy and protocol development**.

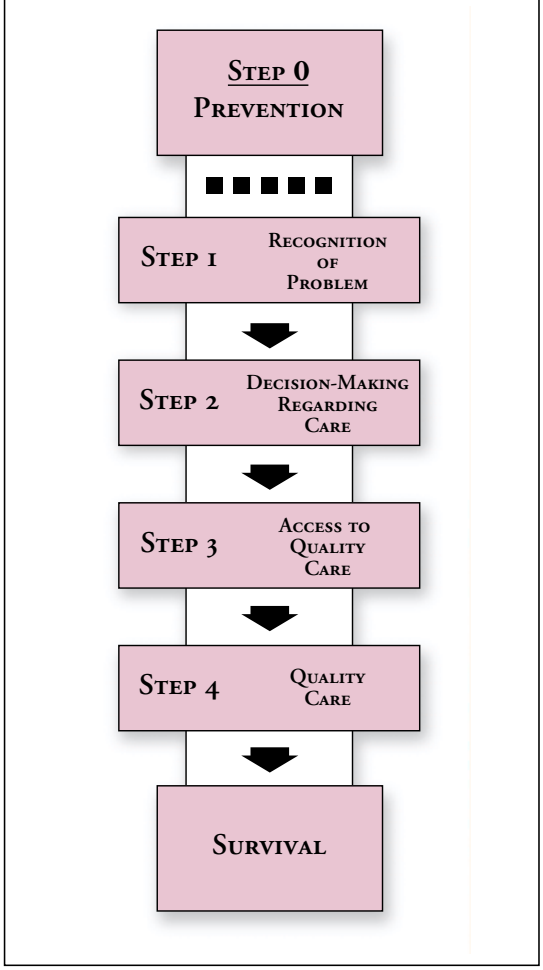
These strategies are aimed at increasing coverage and the quality of maternal and newborn health services.

Starting with the premise that behavior cannot be changed if it is not well understood, MotherCare projects have invested significant time and effort in designing and implementing community assessments comprised of formative research that is largely qualitative and that yields context-specific data for the development of behavior change communication strategies. This research is firmly rooted in the conceptual basis provided by the **Pathway to Survival** (see **Figure 1**), which consists of two complementary approaches:

1. enhancing maternal and newborn health and preventing some complications from occurring or becoming emergencies (e.g., sepsis, septic abortion), and
2. ensuring that when complications arise, they are detected early and treated promptly and appropriately.

In six countries (Bolivia, Egypt, Guatemala, Honduras, Indonesia, and Pakistan), MotherCare has conducted community assessments, which have assisted in identifying factors that pose barriers to or facilitate successful movement through the **Pathway to Survival**. Information collected in the community assessments has enabled country project teams to develop behavior change communication strategies and messages relevant to each country setting. In

Figure 1—Pathway to Survival



most countries, the community assessment is just one component of a more comprehensive needs assessment, which includes an evaluation of health facility and provider service capacity and training needs (see **Box 1**).

This issue of *MotherCare Matters* focuses on the highlights of a comparative review of MotherCare's formative research in six countries, reflecting our current understanding of select behaviors and practices related to maternal and newborn health and survival. Nancy Nachbar has played an important role in the development of this issue. Due to the parameters of our community assessment research, the discussion of behaviors and practices focusing on maternal health and survival is more comprehensive than that of newborn health and survival. In addition, information regarding provider behaviors and practices has been selectively included, since it constitutes an important dimension of the discussion of family and community behaviors and practices pertinent to maternal and newborn health and survival. After presenting relevant information for Step 0 through Step 4 of the **Pathway to Survival**, we will conclude with our current understanding of family and community behaviors and practices, as well as key behavioral issues that require further research to better inform future programming in Safe Motherhood.

Box 1—A Full Formative Research Agenda on Safe Motherhood Includes:

- ★ Community Assessment ★
- Health Care Services & Training Needs Assessment
- Policy Assessment

Also included in this issue are key findings of MotherCare's qualitative research focusing on anemia prevention and control in seven countries (Bolivia, Burkina Faso, Guatemala, Honduras, India, Indonesia, and Malawi). These findings have assisted in the development of strategies and interventions to improve the effectiveness of iron/folate supplementation programs aimed at reducing maternal anemia. This information has been excerpted by Leslie Elder from a forthcoming paper (Galloway, et al.).

We plan to supplement this collective overview of qualitative research in a future issue of *MotherCare Matters*, in which we will assess qualitative and quantitative research findings in three MotherCare demonstration projects (Bolivia, Guatemala, and Indonesia) within the context of strategy development and evaluations of their communication interventions.

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Community Assessment

Methodology

In all six countries (Bolivia, Egypt, Guatemala, Honduras, Indonesia, and Pakistan), **the purpose of the research was to determine the factors that promote or inhibit healthy pregnancy outcomes for pregnant mothers and newborns and that influence survival when maternal or newborn complications arise.** With this broad goal, each project developed research objectives specific to their needs and resources, taking into account any pre-existing mandates. For example, in Honduras, MotherCare collaborated with the Child Survival Project and focused the research on factors related to newborn health and survival, while the investigation in Pakistan focused primarily on maternal health and survival. In all six countries, at least some information was collected on each of the steps of the **Pathway to Survival**.

Data were collected in all six countries through structured interviews (SIs) and/or key informant interviews (KIs). With the exception of Pakistan, all countries utilized focus group discussions (FGDs). In all settings, data were gathered from a broad range of respondents including:

- ✦ married women of reproductive age;
- ✦ husbands of women of reproductive age;
- ✦ health providers (e.g., traditional birth attendants, clinically trained village and facility midwives); and
- ✦ community leaders, other 'key informants,' and/or members of non-governmental organizations (NGOs) present in the catchment area.

Interviews consisted of queries on *prevention and care during pregnancy.* In addition, study participants were asked about *problem recognition* (overall awareness of complications, experience with complications, perceived severity of complications), *decision-making regarding care* (key players and their roles), *access to care* (costs of services and transportation, availability of transportation, distance and time to facilities, work and child care obligations), and *quality of care* (perceptions of service efficacy and interpersonal treatment). A *description of the community infrastructure* (e.g., roads, electricity, health facilities, geography, climate, and sanitation) supplemented the health care access information obtained from the FGDs and interviews.

In some cases, the community assessment research included direct observation of client/provider interactions or deliveries. These observations provided data on the actual quality of care, complementing information on the community perceptions of service quality.[1] For more details on the community assessment study methods and participants, refer to **Table 1**.

It should be noted that the sources of information for this comparative review are the six country reports (see **Table 2**) that provide a summary analysis of the findings of the qualitative research listed in **Table 1** rather than the actual transcripts of interviews and FGDs. Details of MotherCare's guide for formative research are also provided in **Table 2**. Since the comprehensiveness of the information provided in the country reports varies, it has been possible to mainly include direct quotes, where applicable, from Bolivia, Indonesia, and Pakistan.

Findings

Selected highlights from the community assessments are presented within the framework of the **Pathway to Survival**, initiating with prevention issues (*Step 0*) and concluding with quality of care (*Step 4*). For each step of the **Pathway**, similarities across countries are presented, as well as a few critical differences.

[1] A comprehensive strategy aimed at enhancing quality of care by improving provider technical and counseling skills and health facility capacity begins with a training needs assessment and a health facility assessment.

Table 1—Community Assessment Sites, Duration of Data Collection, Interview Methods, and Study Population

Country	Research Sites and Data Collection Timeframe	Methods*	Population
Bolivia	**Sites:** Five districts (one community of high health service use and one of low health service use in each district) **Timeframe:** Approximately three months	40 SIs	Primiparous and multiparous mothers, particularly those who experienced a previous pregnancy or obstetric complication
		30 SIs	Husbands or partners of primiparous or multiparous mothers
		10 SIs	TBAs *(parteras)*
		10 SIs	Community Health Workers
		10 SIs	Community Leaders
		10 FGDs	Women of reproductive age, some of whom were pregnant
		10 FGDs	Husbands of women participating in the FGDs
Egypt	**Sites:** Five districts (two villages and one city in each district) for SIs Six districts (one village and one city in each district) for FGDs **Timeframe:** One month	60 SIs	Women who had experienced complicated deliveries in the past two years
		41 SIs	Pregnant women
		16 SIs	TBAs *(dayas)*
		12 FGDs	Women with children <2 years
		12 FGDs	Mothers-in-law of women with children <2 years
		12 FGDs	Husbands of women with children <2 years
Guatemala	**Sites:** Three districts (eight communities with high maternal mortality rates and low levels of health service use) **Timeframe:** Three weeks	40 SIs	Nulliparous pregnant women
		40 SIs	Multiparous pregnant women
		8-16 SIs	Women who experienced a pregnancy, obstetric, or newborn complication within the last year
		16-24 SIs	TBAs *(comadronas)*
		16-24 SIs	Community Leaders
		16 SIs	Community Health Personnel
		8 FGDs	Mothers (20-34 years)
		8 FGDs	Mothers (35-45 years)
		8 FGDs	Husbands
Honduras	**Sites:** Three regions (three communities in each region) **Timeframe:** Three months	60 SIs	Mother-Father diads of infants <3 months or of infants who had died within the first 28 days of life <3 months prior to the investigation
		15 FGDs	Pregnant women in any trimester with preference given to women in the third trimester
		6 FGDs	TBAs *(parteras),* including those with and without some formal training
		9 FGDs (one per facility)	Mixture of health facility personnel (nurse auxiliaries, nurses, general practitioners, and specialist physicians)
Indonesia	**Sites:** Three districts (four villages, two near to and two far from a health center) **Timeframe:** Two months	90 SIs	Women with children <5 years and/or who were currently pregnant
		29 SIs	Midwives or village midwives
		6 FGDs	Women
		6 FGDs	Men
		3 FGDs	Female "key informants" (e.g., community members, leaders)
		3 FGDs	Male "key informants" (e.g., community members, leaders)
Pakistan	**Site:** Urban community in Karachi **Timeframe:** Approximately two months	30 SIs	Women from six different ethnic groups (five from each group) who were of reproductive age and had at least one living child
		9 SIs	Men from five different ethnic groups (at least one man from each group) who had at least one child
		10 KIs	Women who had experienced an obstetric complication

*FGD: focus group discussion; SI: Structured Interview; KI: Key Informant Interview

Table 2—MotherCare Community Assessment Reports	
Country	**Community Assessment Report Details**
Bolivia	Seoane, G.S. et al, *Diagnostico: barreras y viabilizadores en la atencion de complicaciones obstetricas y neonatales (estudio cualitativo en communidades y servicios de salud de cinco distritos de salud en La Paz y Cochabamba).* La Paz, Bolivia: MotherCare/John Snow, Inc. and Marketing S.R.L. (1996). **[Spanish only]**
Egypt	Social Planning, Analysis and Administration Consultants (SPAAC). *MotherCare/Egypt Diagnostic Research in the Governorates of Aswan and Luxor of Egypt.* Cairo, Egypt: MotherCare/John Snow, Inc. (1998). **[English only]**
Guatemala	Hurtado, E. *Informe final: investigacion cualitativa formativa para el diseÁo de la estrategia comunicacion social proyecto MotherCare/Guatemala.* Guatemala City, Guatemala: MotherCare/John Snow, Inc. (1995). **[Spanish only]**
Honduras	Rivera, A. *Investigacion cualitativa de la morbilidad y mortalidad neonatal en el area rural de las regiones de salud 1,2 y 3.* Honduras: Secretaria de Salud, Save the Children, La Leche League, MotherCare/John Snow, Inc., Basics. (1997). **[Spanish & English]**
Indonesia	Marsaban, J. and L. Zizic. *Working Paper on the Community Diagnosis MotherCare Safe Motherhood Project, South Kalimantan.* Jakarta: PATH and MotherCare/John Snow, Inc. (1998). **[English only]**
Pakistan	Kureshy, N. *Safe Motherhood Project (Korangi 8, Karachi) Formative Research Report.* Karachi, Pakistan: The Aga Khan University and MotherCare/John Snow, Inc. (1998). **[English only]**
Nachbar, N., et al. *Assessing Safe Motherhood in the Community: a Guide to Formative Research.* Washington, DC: MotherCare/John Snow, Inc. (1998). [English only]	
These publications are available through MotherCare/JSI and the USAID DEC Clearinghouse	

Step 0—Prevention[2]

Diet and Workload During Pregnancy

In all six countries, contradictions exist between beliefs about special care during pregnancy and women's ability to translate these beliefs into actions. Although pregnancy is generally seen as a normal occurrence, requiring little special attention, many families state women should improve their diet and reduce their workload. Yet, cultural taboos, poverty, and economic constraints limit women's ability to eat nutritiously and to get more rest.

MATERNAL

Although most Pakistani women report trying to increase their consumption of nourishing foods, others report abstaining from "hard" substances, such as meat, certain types of lentils, potatoes, and cabbage. In some isolated communities in Indonesia, where there is no local market and where the quality of the soil is especially poor, vegetables are unavailable. The poor financial situation of one Pakistani woman, diagnosed with a diet deficient in calcium, precluded her from following the advice of a health professional to drink milk and eat eggs.

Just as poor women have difficulty eating more nutritiously in pregnancy, they often can do little to reduce their workloads. With the exception of Indonesia, where families believe that a heavy workload through the eighth and ninth month of pregnancy makes for an easier birth, families in the other five countries believe women should restrict their workload and avoid lifting heavy things, especially in the last trimester. In Egypt, these beliefs generally are translated into action, as women report receiving assistance with daily tasks from other women and from their husbands. Yet, results from other countries indicate that, more often, women continue with regular chores throughout pregnancy. As one Bolivian woman stated, "*You have to keep working. When you are pregnant you … have to work at the creek, care for the cow, cook, support your husband.*"

Prenatal Care from Traditional and Professional Providers

Beliefs about utilization of prenatal care vary from setting to setting. In each study site, there are some women who utilize the formal health system, while many do not. In Bolivia, Guatemala, Honduras, and Indonesia, families view prenatal

[2] The term encompasses both self-care and use of routine formal health care for normal pregnancy, labor/delivery, postpartum and newborn care, OR conditions and practices that affect a woman's or newborn's overall health, as well as practices related to care-seeking throughout the childbearing sequence.

care as predominantly preventative. In Pakistan, and to a lesser extent in Egypt, prenatal care is considered curative. As a result, those Pakistani women who reported going for care did so because they had experienced an adverse event in their previous pregnancy (e.g., stillbirth) or a problem in their current pregnancy. In most settings, regardless of whether women utilize clinically-trained providers or those from the traditional health system for prenatal care, they seek services during pregnancy for the same reasons: to confirm pregnancy, to check the normalcy of its progression, to check the baby's position, to learn the likely delivery date, and to get special care [e.g., massage (Bolivia, Guatemala, Indonesia) and sweat baths (Guatemala) provided by traditional birth attendants (TBAs)].


Guatemala

Delivery Care from Traditional and Institutional Providers

In each country, there are women and families who prefer home deliveries with TBAs and others who seek out professional providers and institutional settings. The choice is based on the families' values and on the availability and cost of services (see **Box 2**). Women and families who opt for a home delivery with a TBA do so because it is traditional and more comfortable. A home delivery also allows women to maintain their modesty by offering privacy, and it allows them to avoid the embarrassment associated with vaginal exams, dress requirements, and other clinical aspects of a delivery in an institutional setting. These sentiments are illustrated by the remarks of two Pakistani women, the first of whom emphasized tradition by stating, "*We all have deliveries with the dai (TBA). This is a custom in our families and we like to do so and we are used to doing it and it is one of our oldest customs.*" The second Pakistani woman stated that "*it is respectful to have a delivery with a dai (TBA),*" and "*I feel comfortable with her. I feel ashamed of going to the doctors ….*" Furthermore, the personal services TBAs provide are highly valued (e.g., cooking). Women in Bolivia, Guatemala, and Indonesia all mentioned that the special care they receive from the TBA is critical to their choice of TBAs over clinically trained professionals and institutional deliveries. As one Bolivian woman said, "*Although it is more dangerous to give birth with a TBA, as there may be complications, it is better than the hospital for she (TBA) talks to you and prepares hot soups.*"

In contrast to the emphasis on comfort and tradition found in those who prefer home deliveries with TBAs, users of institutional services value the skills and capacity to handle complications found in the clinical providers in the health facilities. The following statement from a Bolivian mother demonstrates this point: "*It is safer at the clinic. One feels secure. Doctors are more capable (than TBAs) and have more experience.*" This sentiment was echoed by a Pakistani woman who stated, "*A TBA cannot manage the case properly. This is other people's opinion also. If a pregnant woman has a baby in the wrong position, it can lead to the death of the mother and the baby.*" Moreover, concerns about safety often outweigh those regarding modesty, thus leading women to select institutional deliveries. In Egypt, provider gender was an important consideration for those who opted for TBAs, but gender was not the primary concern for those women who preferred to have their deliveries with physicians (mostly male).

Still, preferences for a delivery in a health facility or with a professional provider will not guarantee that women will seek out this service. In Pakistan, the cost of a normal delivery in a private clinic is ten times higher than one at home with a TBA, making the cost prohibitive to many families. In Indonesia, one woman expressed preference for a delivery with a clinically trained village midwife because of her skills but used a TBA because she could not afford the midwife's services.

Regardless of preference for a traditional or an institutional delivery, virtually all women and families report problems with the quality of interpersonal care they receive at health facilities. Families opting for institutional deliveries are more willing to overlook these transgressions than families choosing home deliveries with TBAs.

Box 2

Most Salient Reasons for Having a Home Delivery with a TBA

- Tradition/custom
- TBA's interpersonal skills and special care
- Cost of services

Most Salient Reasons for Having an Institutional Delivery

- Skills of clinically trained provider
- Safety/Capacity to manage complication
- Negative perception of TBA skills and capacity

Step 0—Prevention

In the five countries studied that addressed newborn issues (Bolivia, Egypt, Guatemala, Honduras, and Indonesia), attention focused on recognition of and response to newborn complications. Still, some valuable insights regarding prevention emerged, and they are presented below.

Whether the birth occurs at home or at a health facility, key procedures that can help ensure the well-being of the newborn are often neglected. In Honduras, TBAs sometimes place the newborn, often uncovered, by the side of the bed with its umbilical cord uncut while waiting for the mother to deliver the placenta. This delay in cutting the cord is considered beneficial due to the belief that the baby's movements will hasten the delivery of the placenta. In addition, TBAs fear that the placenta may retreat and that the woman may bleed if the cord is cut before the placenta's delivery. Once the placenta is delivered, the cord is cut, and the newborn is then cleaned and checked. Findings from the case studies in Egypt indicate that although most newborns are dried and kept warm, many do not have their airway cleaned or checked. In a few cases, once the cord is cut, newborns are handed to the hospital delivery room cleaner, who is responsible for caring for the cord.

NEWBORN

In all countries, immediate breastfeeding was not consistently practiced. Although some women initiated breastfeeding within an hour after birth (sometimes at the urging of their TBA), others waited up to three days to breastfeed. Use of prelacteal feeds is common in all settings. Guatemalan newborns often receive water with sugar and herbs, including anise, and even cow's milk diluted with water and coffee. In Honduras, infants are given teas and other types of milk, including formula, which the husband procures. Midwives in Indonesia report that some infants take mashed banana before breast milk. In Egypt, throughout infancy, herbal teas and sugar water are given, in addition to breast milk.

Step 1—Recognition of Problem

In order for families and attendants to recognize maternal complications in a timely manner and take appropriate action, they must:

- be aware of complications and recognize them when they occur,
- perceive the severity of the complication, and
- have knowledge of the appropriate life-saving action to address the complication.

MATERNAL

Recognition of the danger signs of major obstetric complications by family and community members can be problematic due to the continuum that exists between the state of normalcy and the state of emergency. Therefore, it may be difficult to correctly and promptly assess the danger signs of some complications such as bleeding due to antepartum and postpartum hemorrhage, swelling of the hands and face due to pre-eclampisa, and extended duration of labor pains due to prolonged and/or obstructed labor.

In most countries, while the majority of women, families, and TBAs lack sufficient knowledge of the danger signs of major obstetric complications for timely recognition, some demonstrate awareness of a few of these complications, which are considered dangerous enough to seek assistance. Complications such as excessive bleeding during pregnancy, delivery, and the postpartum period and prolonged labor/malpresentation are considered dangerous by some women and families in most countries.

Box 3—Barriers to the Recognition of Bleeding Severity

Dangerous Spotting Considered Normal

In a placenta previa case study in **Pakistan**, spotting episodes during the seventh and ninth months of pregnancy were referred to as "ordinary" spots and not considered dangerous or life-threatening by the woman, family members, or the local health care providers (TBA, primary level doctors) from whom assistance was sought to resolve the problem.

Cleansing Effect of Bleeding

In **Indonesia** and **Guatemala**, potentially dangerous bleeding during the postpartum period may be considered beneficial due to the belief that bleeding cleanses the body. It remains unclear how much blood loss is considered excessive and life-threatening.

"Here there are beliefs that after birth, the blood that has clotted inside must come out because it is dirty and bad for you." (woman, Indonesia)

Some TBAs in Guatemala alluded to the cleansing effect of bleeding during the postpartum period by stating, *"the woman has a lot of blood to stay healthy,"* and *"it is normal to bleed during 15 days."*

Quantifying Excessive Bleeding

Assessments of excessive bleeding by community members, such as this example from **Indonesia**, could introduce delays in recognizing and seeking appropriate assistance for potentially dangerous bleeding episodes.

"The danger sign is that there is a lot of blood continuously coming out. In one day you need to change the cloth 3 to 4 times. If it is normal, you only need one piece of cloth. This needs quick medical intervention, because you can run out of blood and die in a short time." (woman, Indonesia)

However, awareness of danger signs associated with pre-eclampsia/eclampsia (e.g., swelling of the face and hands, blurred vision, convulsions) and puerperal sepsis (e.g., foul vaginal discharge, fever) is low. In some countries, families' and attendants' awareness of one complication may be higher than that of other complications. In Bolivia, awareness is greatest for a *sobreparto*, a local term for a condition with symptoms similar to puerperal sepsis. In Indonesia, women and men perceive retained placenta, resulting in postpartum hemorrhage, to be the most dangerous and commonly experienced complication. However, in Pakistan, families possess little knowledge of complications and mention that they rely on TBAs or local primary level health care providers for the recognition of complications and assessment of their severity.

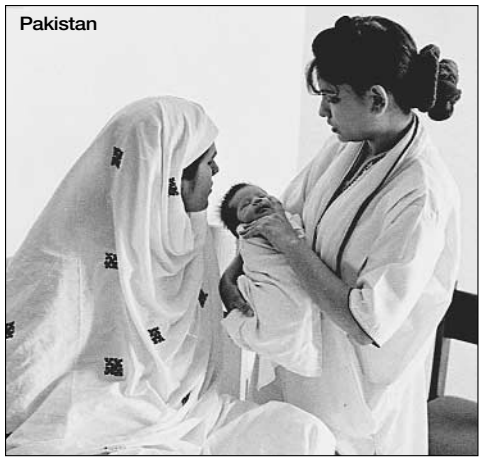
In addition to the general awareness of major obstetric complications, an appropriate life-saving action by families and attendants requires that they correctly assess the severity of danger signs and seek appropriate medical care. Evidence from most countries suggests that while some families and attendants are aware of danger signs and consider certain complications serious, life-threatening delays may still occur because families and attendants do not perceive these danger signs to be severe enough to warrant professional medical assistance and may even seek solutions from the traditional system. In this regard, it was observed that women, families, and attendants in most countries did not discriminate between general and more life-threatening complications since they mentioned general fever, pain, nausea, and vomiting with danger signs of complications, such as excessive bleeding.

Although women, families, and attendants consider excessive bleeding to be a danger sign during pregnancy, delivery, and the postpartum period, they may not be able to recognize the severity of potentially dangerous spotting or bleeding in a timely manner. Bleeding due to antepartum hemorrhage may be considered normal, while bleeding due to postpartum hemorrhage is usually difficult to determine and may not be considered dangerous until it becomes an emergency. Beliefs regarding

the cause and the assessment of the amount of bleeding play a role in perceiving the severity of potentially dangerous bleeding episodes. These beliefs are important in decision-making with regard to the severity of bleeding, and they have the potential to introduce significant delays in obtaining the appropriate health care, as demonstrated in **Box 3**.

Certain symptoms of life-threatening complications are not well-recognized and may even be considered beneficial. An example is the potential lack of recognition of swelling of face and hands as danger signs of pre-eclampsia/eclampsia by some Bolivian women and families, who consider general swelling to be a sign of a healthy pregnancy, as well as a sign reflective of the body storing the required energy for facilitating the birthing process. Asserting this perspective, a 56-year old Bolivian mother of six said, "*The way I see it, it is better if the feet swell. In all the children I had, my feet and face were swollen. It's favorable.*"

Furthermore, if the cause of a complication is perceived to be non-medical, families will seek a solution within the traditional system, introducing significant delays in the process of obtaining timely life-saving medical care. One example in which these delays are particularly relevant is in the case of eclamptic convulsions, which are associated with possession by spirits in Egypt, Indonesia, and Pakistan. In Pakistan, faith healers were called to exorcise spirits that were perceived to have possessed a young woman who had developed eclamptic convulsions. The exorcism resulted in a five-hour delay until the family decided to refer the convulsing woman to the nearest tertiary care facility—a decision that saved her life. Another example of this type of delay occurs with *sobreparto*, a well-recognized condition considered serious by women and families in Bolivia. In cases of *sobreparto*, families turn to the traditional rather than the medical system. This reliance on the traditional system to cure *sobreparto* is due to the belief that *sobreparto* is caused by women's non-adherence to postpartum rules that prohibit exposure to cold air, cold foods, or cold water.[3]



Courtesy of S. Noorani/Developing Images

Exploring community perceptions of problems during pregnancy, delivery, and the postpartum period has also sensitized research teams in some countries to women's vulnerability during this special yet critical period in their lives. Discriminatory attitudes and actions against women have surfaced in reports of women being blamed by families and attendants for certain complications (e.g., *sobreparto* in Bolivia and prolonged labor in Honduras) and of women experiencing violence during pregnancy in Honduras and Pakistan.

Step 1—Recognition of the Problem

Complications of the newborn are not as well-known or recognized in most countries when compared to the awareness of maternal complications. There is some awareness among women, families, and attendants in most countries of newborn problems such as fever, respiratory problems, prematurity, and cord infection. In addition, diarrhea, vomiting, coughing, stomach pain, and jaundice are considered dangerous in some of the countries. Women and families rely on TBAs or health providers for the detection and assessment of the severity of newborn problems. As an Indonesian woman said, "*The TBA will decide if there is something wrong with the baby and then tell me. If there is nothing wrong, if the baby is all right, she will not say anything.*"

NEWBORN

Despite some awareness among families and TBAs of serious complications, newborns may not receive appropriate care. Attitudes about stillbirths in Indonesia point to the notion that responses to newborn complications may be considered futile due to fatalistic or "resigned" attitudes about the death of a newborn. To illustrate, an Indonesian man stated, "*It (a stillbirth) is sad, but we don't dwell on it. Besides, when it is time for his mother (referring to his wife) to go, he (stillbirth) will help her get*

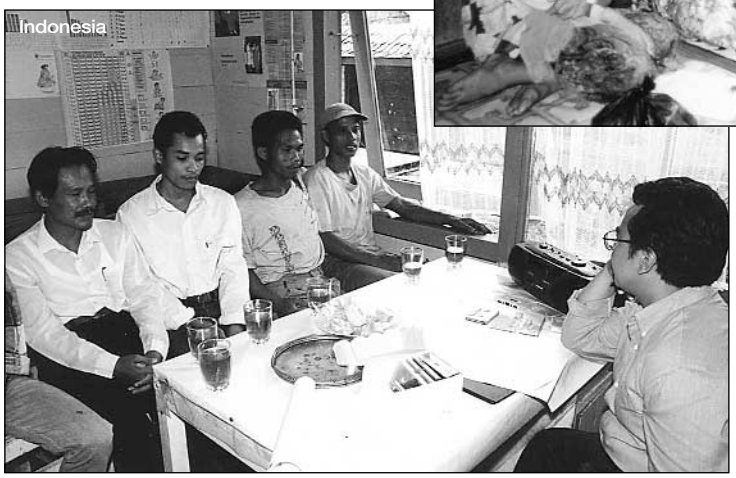
[3] Nachbar, N., et al. *Assessing Safe Motherhood in the Community: A Guide to Formative Research*. Washington, DC: MotherCare/John Snow, Inc., (1998): 22.

to heaven." In Bolivia and Guatemala, some families and TBAs may be more attentive to mothers rather than the newborns during the postpartum period because they perceive a greater risk associated with the mother's well-being during this time period.

Some newborn complications are believed to occur due to non-medical causes, requiring family and attendant responses from outside the institutional health system. In Indonesia, a TBA described the cause of and response to jaundice in the following manner:

"*The baby is born yellow because a bad spirit has sucked out some of its blood. The remedy is to fill a white bottle with water and cover it with a red pepper, then put the bottle at the foot of the bed or near the head of the baby. The baby must be washed and blessed and put to bed, then later the water in the bottle gets sucked out instead of the baby's blood.*"


Indonesia


Indonesia

In Bolivia, Guatemala, and Honduras, newborn problems, such as fever and crying, are associated with the evil eye and are treated by containment of the newborn in the home and by herbal remedies. In addition, Honduran newborns who have diarrhea with dehydration and fever are believed to be suffering from "fallen crown," which is cured by traditional rituals.

Step 2—Decision-Making

Evidence from all countries points to the complexity of the decision-making process when families and communities are confronted with maternal and newborn complications. The complexity arises due to the diverse decision-makers involved, as well as the factors influencing the individual and collective decisions of women, families, and attendants regarding referral to an appropriate health care facility.

MATERNAL/ NEWBORN

Most women in all settings rely heavily on family, neighbors, and health providers for advice regarding maternal and newborn complications. Therefore, there are usually multiple decision-makers from the immediate and extended families, as well as the community. Influential family members who take part in decision-making may include the following: husband or partner, mother-in-law, mother, other important family and community members, TBA, midwife, and/or other primary level health care providers. For example, in a postpartum hemorrhage case study in Pakistan, the husband, his older brother, the sister-in-law, other family members, the traditional birth attendant, and two local doctors were involved in the decision-making at different stages of the complication.

Mothers-in-law, particularly in Egypt, Indonesia, and Pakistan, emerge as important figures in the decision-making process, while husbands and sometimes other influential male members of the household are almost always vital in all countries. According to a woman in Indonesia, "*The one who finally decides to take (the woman) to the hospital is the husband, after talking with the midwife and family.*" Thus, the final decision for transfer to a health facility in an emergency rests with the husband and, in most cases, is due to the responsibility for financial and logistical requirements necessary for the transfer. In Egypt, the husband is expected to be at home during his wife's delivery in order to ensure his availability in case of an emergency. In Pakistan, however, the husband is not expected to be present at delivery, and his absence at the time of an obstetric emergency, in some maternal com-

plication case studies, emerges as a significant delay factor in referral to a health facility.

When faced with maternal and newborn emergencies, families in most countries rely on the TBA and sometimes other primary level health care providers for decision-making in the assessment of the severity of a complication and the necessity to transfer the woman/newborn to the health facility. While the ability of front-line providers to make timely and appropriate referrals is dependent on their technical and management skills, their motivations or inhibitions for making referrals to higher levels of care were not explored by research teams. Maternal complication case studies from Guatemala and Pakistan also reveal that families do not conform to the advice of attendants for referral in some emergencies because the complication's causes and solutions are perceived to exist outside the medical system.

In most countries, the community (e.g., neighbors, community leaders) usually becomes involved in the decision-making required to facilitate the process of transferring a woman experiencing life-threatening complications to a health facility—particularly in areas where a family may require financial and logistical support to reach the nearest health facility. For example, in Indonesia, the collective decision-making of family members, neighbors, and the birth attendant is referred to as a "*musyawarah*," and it involves a discussion regarding the financial implications of referring a woman to the hospital. Maternal complication case studies from Pakistan also reveal that neighbors and relatives assist with locating transport, securing financial loans, and meeting other requirements in a maternal emergency, such as securing blood donors. In contrast, support for Bolivian families is restricted to the extended family as a Bolivian respondent stated, "*There is no form of help. If only they would help. Only our family helps and no one else.*" The lack of community support for resolving potential maternal and newborn emergencies in some communities in Bolivia is further illustrated in the following statement, "*No one in the neighborhood helps in an emergency. It is not their responsibility.*"


Guatemala

Step 3—Access

Transport and Costs

Distance, availability of transport, and cost are significant barriers to the use of health services in most countries for maternal and newborn complications. These barriers are the primary concerns for residents in the areas most isolated from health services in some countries, such as the communities nestled in the mountains in Guatemala and the communities surrounded by water in Indonesia. A maternal death case study from Guatemala revealed that the woman's reluctance to travel to the health facility was primarily due to distance and bad roads. The woman died at home from hemorrhage due to retained placenta because she resisted her husband's desire to take her to the hospital. She preferred to die at home rather than travel in her condition on the long, bumpy road to the health facility. In all countries, public transport is either unavailable or difficult to find in non-urban areas and at night in urban areas. In addition to barriers posed by distance and the availability of transport, perceived costs incurred from the treatment and management of maternal complications (e.g., transport, medicine, family stay) are considered high, preventing some families from seeking institutional care. A Bolivian husband provides insight to the constraints posed by high costs associated with care for obstetric complications, "*For lack of money, we sometimes don't take the woman to the hospital; it's that there, they charge us for everything, even the air we breathe. That's why sometimes we have to resign ourselves to losing our companion . . . because we are poor.*"

MATERNAL/ NEWBORN

In Honduras, Indonesia, and Pakistan, informal community support systems can be tapped into

Box 4—Traditional Maternal and Newborn Beliefs and Practices: Barriers to Institutional Care in Bolivia, Guatemala, and Honduras

Examples of some practices important to the community in **Bolivia** that are not given importance in the institutional system:

- returning placenta (if desired)
- allowing presence of family members and TBA during delivery
- keeping women warm during and after birth
- letting women choose their birthing position
- privacy

There is little demand for institutional/hospital care in **Guatemala** among women who prefer traditional care and adhere to practices such as:

- therapy of "temascal" (sweat baths)
- abdominal massages provided by the comadrona (TBA) during pregnancy and the postpartum period
- a squatting position during delivery

Lack of sensitivity of institutional providers to the phenomena of the eye ("ojo," "pujo") and fallen crown ("mollera caida") in **Honduras** discourages families from seeking institutional care for newborn problems that are associated with them if the problems are not resolved by the traditional system. These newborn problems include:

- fever due to "ojo" or "pujo"
- crying due to "ojo"
- dehydration, fever, and diarrhea due to "mollera caida"

during emergencies for assistance with financial loans, organization for transport, and arrangement for child care. Despite the existence of support systems in some communities, families continue to face risks due to their lack of options when faced with maternal and newborn complications. For example, midwives in Indonesia claim that a husband may disagree with the advice of a midwife or TBA for his wife's referral due to concerns about loan repayment. In Pakistan, a woman who developed placenta previa was unable to obtain a sonogram due to lack of child care during the day.

Quality of Care

Family and community perceptions of poor quality of care provided by a health facility can prevent them from seeking institutional care during emergencies, leading to tragic consequences. Therefore, improving quality of care proves to be equally important in bringing services within the reach of communities in all countries to facilitate access. Poor perceptions of quality of care in all settings result mainly from negative interactions with institutional health care providers and their dismissal of traditional beliefs. Some details focusing on the chasm between traditional maternal and newborn beliefs and practices and institutional care in Bolivia, Guatemala, and Honduras are highlighted in **Box 4**, while quality of care, from the community and provider perspectives, is dealt with more comprehensively in the next section.

Step 4—Quality of Care

Quality of care in a community assessment focuses mainly on client perspective regarding services, as well as on some basic provider practices.[4] In most countries, deficiencies in institutional quality of care pose a significant barrier to the use of services. Quality of care concerns are highlighted by the community, as well as the health care providers (see **Box 5** and **Box 6**), despite the existence of groups within each country who express faith in the capacity of the institutional system to resolve maternal and newborn complications. Within the community, those individuals who are partial to the institutional health care system cite technical skills and the capacity of institutional providers to resolve problems as main advantages. Those individuals who are not partial to institutional health care emphasize poor interpersonal care, shame and fear associated with procedures (e.g., vaginal examination, episiotomy, cesarean section, sterilization), and death as deterrents.

MATERNAL/ NEWBORN

Emphasis placed on concerns of deficiencies in quality of care becomes polarized when comparing the perspectives of the community with the perspectives of institutional health care providers. In Bolivia, while the indigenous groups within the community cite the institutional health system's lack of cultural compatibility with the community's traditional beliefs and practices, the health care providers consider their services to be of good quality and sensitive to the cultures of these groups. Such differences in perceptions, which are also evident in Guatemala, Honduras, and Indonesia, reveal that institutional health care is usually not provided in a manner that is responsive to the community's beliefs and needs.

Although providers cite the lack of medicines/ supplies, inadequate staffing, and sometimes language barriers as major issues, they almost never

Courtesy of S. Noorani/Developing Images

Box 5—Quality of Care

Client Concerns

- Mistreatment by providers and other health personnel (e.g., rudeness, neglect)
- Lack of privacy
- Shame (e.g., vaginal examination)
- Rumors and fears [e.g., procedures (episiotomy, cesarean section, sterilization), death]
- Discrimination and lack of respect for traditional beliefs by providers (e.g., social class, ethnicity, indigenous groups)
- Language barrier
- Skills, experience, age, and gender of provider
- Institutional capacity to respond to emergencies (e.g., personnel, equipment, medicine)
- Other institutional factors (e.g., long waiting periods, absenteeism, rejections)

Provider Concerns

- Lack of supplies and medicines
- Infrastructure, including staff
- Language barrier (sometimes)

[4] Nachbar, N., et al. *Assessing Safe Motherhood in the Community: A Guide to Formative Research*. Washington, DC: MotherCare/John Snow, Inc., (1998): 27.

Box 6—Examples of User Complaints of Institutional Health Care in Bolivia, Indonesia, and Pakistan

The treatment there (tertiary public hospital) is not correct. They just check patients superficially and then leave them to die.

—Woman, Pakistan

Nurses should be more humane. They do not know how to treat people. They discriminate against women who come for the first time, and this is why we feel afraid.

—Husband, Bolivia

The service at the hospital is very slow. Apparently they have trainee nurses. Their skills are not very good yet.

—Woman, Indonesia

We know how to treat (childbirth), and we attend to it well. Although at the hospital they help to ease childbirth, they treat us badly, scold us, and treat us as ignorant, especially nurses. At home, even if (childbirth) takes long, women are well treated.

—Community Leader, Bolivia

There are long lines in Jinnah (tertiary public hospital), and they do not care. There is a lot of scolding. I was drenched in sweat and fainted while waiting to be seen there.

—Woman, Pakistan

see themselves as contributing to the problem of poor quality of care. However, case studies of maternal complications in Pakistan and Egypt highlight the sub-standard care that communities receive from health care providers for life-threatening emergencies. Incorrect and inadequate treatment and/or management contributed to significant delays[5] in appropriate referrals by the primary and secondary level health care providers in most complication case studies collected in Pakistan. For example, a woman with eclampsia made numerous visits to local health clinics for weakness during the antenatal period and received injections rather than a blood pressure examination. Similarly, observations of delivery cases in Egyptian hospitals revealed significant deficiencies in technical and non-technical skills, such as lack of appropriate infection prevention procedures, inappropriate use of syntocinon, and inadequate care for women during labor and for newborns.

Conclusions

While MotherCare's formative research has provided valuable insights for strategy refinement and message development within each country setting, a comparative assessment of the findings from communities in the six countries provides an overview of our understanding of family and community behaviors and practices in key areas of Safe Motherhood. Combined with our current level of understanding of the behaviors and practices associated with maternal and newborn health and survival in different settings, there is a sensitization to the complexities of behaviors and the remaining gaps. Investments in future research in these challenging areas will contribute significantly to the development of effective strategies for Safe Motherhood that will enable and sustain behavior change in families and communities.

Step 0—Prevention

MotherCare's qualitative research reveals that women in most countries face constraints that do not allow them to take special care during pregnancy, such as eating well and resting. While there are some women in each country who receive pre-

[5] A delay was defined as a factor that prevented a woman from reaching a health facility or receiving appropriate care. Delays were caused by either omissions or interventions at the family, health care provider, or tertiary care facility levels.

natal care from the institutional health system, little emphasis is placed by women, families, and traditional and institutional providers on behaviors related to preventive care and planning for potential maternal and newborn emergencies. Research focusing on newborns reveals that key practices comprising essential newborn care (clearing the baby's mouth and nose; drying, warming, and cleaning procedures; cutting and care of the umbilical cord, feeding practices) are neglected by families, attendants, and health personnel.

To further inform strategy development and programming for ensuring maternal and newborn health and survival, the following dimensions of prevention and care need to be critically explored and elucidated:

- The factors that **enable families and communities to emphasize preventive actions**, including contingency planning.
- Innovative strategies and processes at the family and community levels that **enable women to take special care during pregnancy** (e.g., improving the quality and quantity of diet, decreasing workloads and increasing rest).
- The necessary **components of a positive client-provider relationship** and care women receive from institutional health providers that will lead women to make use of prenatal care as well as delivery services.
- The process by which harmful behaviors and practices associated with delivery and newborn care in both households and health facilities can be modified.

Step 1—Recognition of Problem

Evidence from MotherCare's community assessments demonstrates deficiencies in womens', families', and attendants' accurate knowledge of the three components of problem recognition (awareness, perception of severity, and knowledge of appropriate life-saving action). These deficiencies result in unnecessary and life-threatening delays for maternal and newborn complications.

Overall awareness of major maternal and newborn complications among women, families, and attendants is insufficient in all countries. While some women, families, and attendants in most countries consider bleeding, prolonged labor, and malpresentation to be dangerous, few are aware of the danger signs and manifestations of pre-eclampsia/eclampsia and puerperal sepsis. In addition, only a few women, families and attendants in most countries are aware of newborn complications such as fever, respiratory problems, prematurity, and cord infection, while a few in some countries also mention diahrrea, vomiting, coughing, stomach pain, and jaundice.

Research teams have found it difficult to discern the degree of risk associated with maternal and newborn complications perceived to be dangerous, and it is sometimes unclear which complications are considered life-threatening. Moreover, traditional beliefs and practices associated with some maternal and newborn complications prevent families and attendants from accurately assessing the severity of complications and acting in a manner that will ensure safety of women and newborns experiencing the complications.

In order to maximize the effectiveness of strategies aimed at the recognition of maternal and newborn complications, women, families, and attendants require more than specific, medically oriented knowledge of the danger signs of complications. Thus, the following areas of problem recognition need to be better understood:

- **Local terminologies and groupings of symptoms**, as well as **traditional beliefs and practices** related to maternal and newborn complications.
- **The determinants, thresholds, and circumstances that guide women, families, and attendants to recognize and take appropriate actions** for various maternal and newborn life-threatening complications.

Step 2—Decision-Making

Research in all countries, particularly in the form of maternal complication case studies in some countries, provides insights into the complexities of the decision-making process at the family and community levels during maternal and newborn complications. The critical role of husbands and other male guardians, influential family and community members, and other primary level health providers

in decision-making during maternal and newborn complications highlights the need to address Safe Motherhood as a community issue. Factors that influence the decision of families and community members to seek timely and appropriate health care encompass elements of problem recognition, as well as physical and sociocultural access barriers to and perceptions of quality of care at the referral health facilities.

The development of effective strategies aimed at improving timely and appropriate referrals for maternal and newborn complications will benefit from researching the following behaviors of families and providers in order to enhance our understanding of the complexities of decision-making:

- **The process by which families are motivated to plan for maternal and newborn emergencies, and the factors that facilitate or impede planning for emergencies** at the family and community levels.
- **The roles and behaviors** of husbands and male guardians **in decision-making regarding routine and emergency maternal and newborn care** that either constitute problems or may contribute to solutions.
- **The factors that motivate** women and families **to either comply with or reject advice for referral to a health facility**, particularly in an emergency context.
- **The determinants of positive and/or negative associations between different levels of providers in the community** and the **resulting impact of these relationships on referrals**, particularly factors that may assist in developing synergy between the different levels of providers in the community as well as with health institutions.

Step 3—Access

In most countries, families mention distance, unavailability and cost of transport, high cost of services, and poor quality of care at referral facilities as significant obstacles to their use of health services. In some countries, families are able to overcome barriers posed by cost and transport with financial and logistical assistance from extended family and community members, which allows them to access an appropriate health facility when confronted with a maternal or newborn emergency. Lack of support at home (e.g., child care) can also prevent women in some settings to obtain necessary care when complications develop. In addition, traditional beliefs and practices precluded by the medical system pose formidable barriers to seeking routine and emergency medical care.

While in some settings, Safe Motherhood programs have addressed barriers of distance (e.g., maternity waiting homes), transport (e.g., provision of ambulances, alarm systems for taxis), and cost (e.g., community loan schemes, emergency funds, insurance schemes), there is a greater need for innovative strategies founded on the priorities and solutions identified and proposed by the community to overcome access barriers. Strategies aimed at strengthening referral systems would also be better informed by research and documentation in the following areas:

- The relative **importance of constraints** faced by families who do not **comply with referrals** versus those who do, in addition to **the factors that help families succeed in using a referral system** to their benefit.
- Experiences with **contingency planning at the family and community levels** to overcome barriers of cost and transport and the conditions necessary for success in different settings.
- The conditions necessary for the **success and viability of community-based financial schemes** (e.g., community risk-sharing interventions).

Step 4—Quality of Care

Community perceptions of quality of care in most countries reveal that both the perceived efficacy and the cultural compatibility of services are important in creating demand for services. With few exceptions, in those countries where research included health professionals, few institutional providers perceive any problems with the care they give. For families, complaints about the quality of care focus on the lack of respect for their customs and traditions, and the interpersonal treatment they

receive from staff. For health facility personnel, concerns about quality of care center on inadequate human or material resources.

In order to bridge the divide between community traditions and formal health services, it is necessary to negotiate a common criteria for quality of care that incorporates both community and provider perspectives. Community traditions and practices that are acceptable to providers can be incorporated into the health institution's practices. This type of negotiation results in "woman-" or "TBA-friendly" health centers that are accepted, rather than feared, by the community. In order to achieve this end, there is a need to understand:

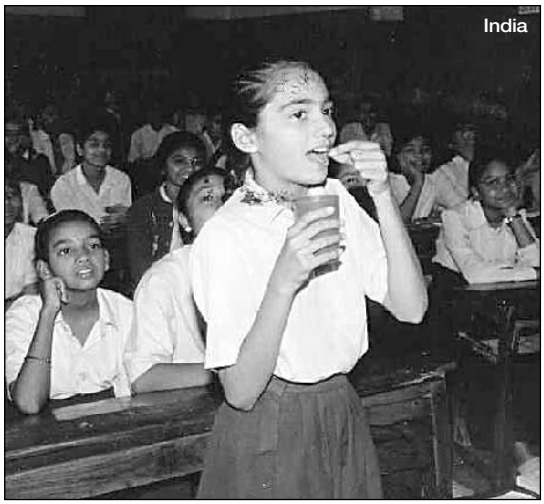
- The process by which mutual **agreements and compromises** can be reached **between community traditions and needs and health service delivery** for different settings.
- The motivations and inhibitions of providers and institutions for changing their ideals and engaging in this process of negotiation with the communities they serve.

Anemia

Anemia Prevention and Control

Iron deficiency is the most prevalent nutritional deficiency on the globe. Women, especially during pregnancy, are among those most vulnerable to iron deficiency and its more severe manifestation, anemia. Although the majority of developing country governments have policies to give pregnant women iron supplements, anemia prevalence has not declined significantly where large-scale programs have been evaluated (Gillespie, 1998).

To better understand the barriers to iron supplement consumption during pregnancy, MotherCare and its partners conducted qualitative research in seven countries (Bolivia, Burkina Faso, Guatemala, Honduras, India, Indonesia, and Malawi). The MotherCare Project focused on improving the effectiveness of iron/folate supplementation programs using the formative research findings to develop program strategies and interventions to reduce maternal anemia.



Courtesy of S. Kanani, Baroda Citizens Council and M.S. University of Baroda, India

Anemia—Symptoms, Causes, Consequences

In most of the countries studied, women recognize anemia as a set of symptoms and clinical manifestations, but not (apart from Honduras) by the clinical term "anemia." Nearly all respondents state that a poor quality diet and lack of food due to poverty are major contributors to anemia. In India, women identify culturally specified dietary restrictions and household eating patterns—eating last of the food leftover from the family meal—as causal factors in the high prevalence of anemia in South Asia. Heavy physical labor is also believed to contribute to the condition, especially during pregnancy.

Women are able to identify a number of negative consequences of anemia. In Bolivia, Guatemala, and Honduras, respondents state that anemia can have serious and even fatal consequences for both mother and baby. Anemia can be passed from the mother to the baby resulting in thin, weak, deformed, premature, or sick infants.

Courtesy C. Stephen, St. Johns Medical College, Bangalore, India

India

Lack of energy at the time of delivery can also cause problems for the mother. In Burkina Faso, blood is the essence of life. Therefore "lack of blood" is considered to be a serious condition. At the same time, an "excess of blood" is harmful, as is "poor quality" blood.

While women in India recognize that anemia can become serious enough to require blood transfusions, there is also wide-spread acceptance of weakness and fatigue as normal aspects of pregnancy. The beliefs are similar in Indonesia, where respondents do not think that anemia is dangerous or a serious health problem. Recognition of maternal complications associated with anemia (e.g., the increased risk of mortality due to hemorrhage if a women is anemic) is low, and there is a high acceptance of extensive blood loss as routine during labor and delivery.

Indonesia

Treatments for Anemia

Flowing from the understanding that anemia is caused by poor quality diets, many women report that an adequate diet composed of nutritious foods is the primary treatment for anemia. However, economic constraints to improved diet are mentioned frequently. In Guatemala, several respondents also feel that increased rest during pregnancy would help to cure anemia, but that this is impossible given their workloads.

Traditional healers in Burkina Faso treat anemia with plants, but women generally prefer Western medical treatments such as tablets or transfusions. In most countries studied, a variety of home-based remedies are mentioned using roots, herbs, and other plants, as well as beef and chicken soups, tomato and carrot juices (Honduras), mixtures of young bamboo, brown sugar and ginger (Indonesia), and in Malawi, Coca-Cola.® Frequently, the remedies include foods that are red/dark brown and therefore, associated with blood. In the case of Coca-Cola,® confusion of its administration following blood donation with the "blood-strengthening" properties of iron supplements has led to the practice of consuming the beverage as a cure for anemia.

Use of Prenatal Care Services—Knowledge and Use of Iron Supplements

Use of prenatal care services clearly contributes to women's recognition and use of iron tablets during their pregnancies. The women who access services are often able to identify benefits of iron consumption such as increased strength, less fatigue, and having a healthy baby. However, this is not universally true. In Bolivia, although women receive prenatal iron tablets from service providers, they have little knowledge about the tablets or why they should take them. This gap in the dissemination of information is evident in other countries as well.

In Guatemala and Honduras, distribution of prenatal vitamins is the routine government policy, with iron supplements only given to women (in Honduras) if they are perceived by providers to be anemic. Women in the study area in Malawi complain that only those diagnosed with anemia are given iron tablets, and lack of supplement supplies is a major problem at the national level.

Women articulate a number of reasons for not adhering to a daily iron supplementation schedule during pregnancy. These include supply problems, the form of the tablet (unappealing taste, smell, or color), side effects such as gastrointestinal upset, fear of having a large baby and trouble with delivery, early cessation due to alleviation of symptoms (e.g., lethargy diminished), and forgetfulness.

In the Latin American countries, women appear reluctant to accept iron tablets from sources outside the government health system, fearing poor quality control and lack of medical supervision. In South

India, the opposite case is true, with women highly suspicious of the quality of government-supplied pharmaceuticals. Tablets procured and distributed through NGOs and/or purchased from private clinics or in the marketplace are regarded as preferable. In West Java, Indonesia, research findings show that there is skepticism among women about expanding community-based distribution networks, but also agreement that a government-sanctioned program to use traditional birth attendants as conduits for iron supplements would be acceptable.

Improved Iron Supplementation Programming—Barriers and Facilitators

The qualitative research from the seven countries provides information on both barriers and facilitators of improved iron supplementation programs. While a range of side effects from iron tablets are commonly identified by women in all settings, knowledge and experience of the benefits to mother and baby can facilitate overcoming the minor discomforts associated with iron. This underscores the need for improved training of service providers to enhance their knowledge of the importance of iron supplementation during pregnancy and to improve their ability to counsel women effectively.

Low utilization of services is a significant barrier to increased coverage of women with iron supplements, as well as to their optimal consumption of the iron/folate tablets. Initial contacts with antenatal care services are often made in the latter half of pregnancy, making it impossible for women to consume the recommended number (90 to 150 iron tablets in the countries surveyed) of iron supplements before delivery.


Indonesia

Women in several study sites (e.g., Malawi and India) are already attuned to the importance of iron during pregnancy, and face supply/distribution barriers to improved iron consumption. These barriers include poorly trained and unmotivated health service providers, access problems, and lack of supplies at national, regional, and local levels. Long-term solutions to these barriers include improved coverage of pregnant women with high quality antenatal and delivery care services and funding/facilitation of adequate supply and distribution systems for iron supplements. More immediate solutions may involve innovative partnering with the private sector and community health volunteers for expansion into alternative distribution systems for iron.

A number of specific cultural beliefs act as barriers to increased consumption of iron. In addition to concerns about increased birthweight and a difficult delivery (Bolivia, Burkina Faso, Guatemala, Honduras, India, Indonesia), women are afraid to take "medication" during pregnancy (Bolivia), they fear the side effect of increased appetite (due to their inability to satisfy the increase because of economic constraints) (Honduras), and they perceive the symptoms of anemia to be normal outcomes of pregnancy (India, Indonesia). Development of communication materials needs to take account of these beliefs in the design of messages, and health service providers must be trained to counsel and provide services within the cultural context of their target populations.

Program Directions

The formative research results provide guidance for the development of iron supplementation program strategies and messages for communication materials.

- **Enhance health service providers' knowledge and awareness** of the fundamental importance of optimal iron status for pregnant women

- **Train providers to deliver iron tablets and effective counseling** (e.g., causes and consequences of anemia, how to take iron/folate tablets, management of side effects)
- **Address barriers to utilization of antenatal care services** (e.g., low quality of care, inadequate staff coverage of facilities, proximity to communities, low demand for services by women)
- **Attack the problem of supply and distribution systems at multiple levels** (e.g., national commitment to central procurement of supplies; innovative partnerships with the private sector; alternative health service delivery mechanisms for increased availability of supplies at the community and household levels)
- **Base communications strategies and messages on a thorough knowledge of existing culture-specific beliefs and behaviors**

Research Questions

Despite significant advancements in understanding the dynamics of iron supplementation programs, research gaps remain. The messages and the media for communications materials will continue to be refined as knowledge and behaviors (those of women, their families, and service providers) change over time. How to generate interest and commitment on the part of health care providers to deliver iron/folate tablets and to better train providers to promote the use of iron supplements through counseling and supportive listening, remain areas for further work. Finally, how best to assist women to adhere to a daily regimen of supplement consumption is not fully understood. Looking to experience with other types of daily protocols (e.g., tuberculosis control) may hold some clues to this complex behavioral issue.

General References

Gillespie, Stuart. *Major Issues in the Control of Iron Deficiency.* The Micronutrient Initiative: Ottawa, Canada. 1998.

Tetanus

News Flash!

The Control of Tetanus—A Discussion Paper for Policymakers

Each year tetanus kills over 300,000 newborns and approximately 30,000 women of childbearing age due to unclean deliveries. Females need to enter their reproductive years protected against tetanus so that neither they nor their future babies get the disease. Yet in many countries, pregnant women do not receive antenatal care or safe delivery. Fortunately, tetanus can be prevented easily through a highly effective, safe and inexpensive series of tetanus toxoid immunizations that can be given during a wide window of opportunity, lasting from infancy through adulthood. During the past decade, enrollment rates of females in primary school have increased dramatically in many countries and health authorities can now use this opportunity to improve the control of tetanus through school-age immunization programs.

Because of an urgent need to reduce the number of women and newborns killed each year by tetanus, a discussion paper has recently been published. The discussion paper, "**Using Early Childhood Booster Doses to Maintain the Elimination of Neonatal Tetanus**," has been prepared by Robert Steinglass of the BASICS Project, a USAID-funded child survival project, to inform national decision-makers and their international partners on the introduction of school-based booster programs to increase protection against both tetanus and diph-

theria. The paper was presented at WHO's Neonatal Tetanus Elimination Technical Consultation in Geneva in 1997. In June 1998, at their meeting of the SAGE (Scientific Advisory Group of Experts), WHO recommended the introduction of school-based booster programs to increase protection against both tetanus and diphtheria.

The discussion paper consists of three chapters:

1. a discussion of the evolution of neonatal tetanus control strategies and the rationale for adding early childhood booster doses as a long-term sustainable strategy;

2. the data on selected countries justifying the immunization of school children in the early grades of primary school; and

3. some operational implications and issues related to the introduction of booster doses in primary school.

Data collection instruments are included to guide the development of data-based, district-level strategies for tetanus control.

Summary

Tetanus toxoid immunization is a cost-effective addition to an integrated, comprehensive package of school health services. Countries that have a high enrollment rate of girls in the early grades of primary school can take advantage of the long-lasting duration of immunity from each successive dose of tetanus toxoid and immunize both girls and boys in the early grades, before the girls start to drop out of school. This will protect school-age children from tetanus, as well as increase the protection of girls as they enter childbearing age. All children in the first few grades can be immunized during a single annual visit to each primary school. The scientific and programmatic rationale for adopting school-age tetanus boosters is that it provides:

- a long-lasting immunity against tetanus and diphtheria from each successive dose of toxoid;
- an anamnestic response (immunological memory) to doses of toxoid received long ago;
- an opportunity to take advantage of the high enrollment of girls in the early grades of primary school;
- a means to "catch-up" on the immunization of children not reached during infancy (primes them and closes the immunity gap);
- an extension of the duration of protection from earlier infant doses;
- a reduction in the number of doses needed for females who are harder to reach as adults;
- protection against neonatal tetanus through the mother's immunization for higher-risk first births (depending on total number of doses the mother received);
- a sustainability for gains achieved during mass campaigns by channeling political interest into follow-up action; and
- an ability to be efficiently integrated into a comprehensive package of school health interventions.

The full text of this paper can also be obtained from the web site for the BASICS Project at www.basics.org. BASICS is interested in expanding readership to those engaged in Safe Motherhood and school health programs. Contact: Robert Steinglass, BASICS, 1600 Wilson Blvd, Suite 300, Arlington, VA 22209, USA for more information.

* DT and Td can be used to protect against diphtheria and tetanus
Source: Robert Steinglass, BASICS Project

The White Ribbon Alliance

"Never doubt that a small group of thoughtful citizens can change the world: Indeed it is the only thing that ever has."

—Margaret Mead—

The **White Ribbon Alliance** was formed by a number of international organizations in an effort to raise awareness of the need to make pregnancy and childbirth safe for all women in both developed and developing countries. The members of the Alliance envisioned a broad-based coalition that could make this a priority issue for international organizations and governments. The Alliance hopes that international non-governmental organizations (INGOs), US-based non-governmental organizations (NGOs), and government agencies will collaborate in an effort to decrease maternal mortality through shared resources and experiences.

The following are a few comments of the Alliance participants on what the white ribbon signifies:

- ✦ It is a statement, an eye-catching symbol, that signifies the health and well-being of women.
- ✦ It provides education that is needed to sensitize others with regard to women dying in childbirth.
- ✦ It symbolizes a collective approach to decreasing maternal mortality.

MotherCare staff and TBAs in Guatemala proudly display their white ribbons.

Goals of the White Ribbon Alliance

Raise awareness among citizens, INGOs, NGOs, and governments concerning the need for action to make pregnancy and childbirth safe for all women and their families.

✦ ✦ ✦

Build alliances to save the lives of these women through intersectoral and non-traditional partnerships (such as teachers, religious organizations, and the government), recognizing that the strength of a large and united effort can affect change.

✦ ✦ ✦

Act as a catalyst for action to address the tragedy of maternal deaths and sustain the current Safe Motherhood efforts under way.

- ✦ Its white color symbolizes grief or death, but also hope.
- ✦ It places the issue of Safe Motherhood in the spotlight.
- ✦ It says "Unsafe motherhood is unacceptable!"

The Alliance's activities are numerous in its attempt to involve organizations and groups to popularize the cause of Safe Motherhood by utilizing this symbol in their programs and activities. MotherCare joined the alliance in May 1999, and has helped to spread awareness through the distribution of over 100 white ribbons and information on the Alliance at the last Global Health Council meeting in June 1999, and the distribution of over 200 white ribbons at the MotherCare/Guatemala final meeting in August 1999.

In order to motivate groups and organizations in developing countries to participate, the Global Health Council is sponsoring a contest for creative approaches using the white ribbon to raise awareness of the campaign. Winning approaches will serve as models for Safe Motherhood advocacy, with one representative from each winning group invited to attend the Global Health Council's Annual Conference on June 13-16, 2000, in Washington, DC. **Please refer to the White Ribbon Contest insert for additional details.**

In support of the White Ribbon Alliance, Mary Ellen Stanton, USAID, wears the white ribbon during her presentation at the Guatemala close-out meeting.

Guatemala Project Director Dr. Elizabeth de Bocaletti with Dr. Ernesto Velásquez, Coordinator, National MCH Program, Guatemala, wearing their white ribbons.

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